

Rice Lake [Maple Grove] (27-0116) – Elm Creek Watershed Management Commission

Rice Lake lies within the City of Maple Grove. The lake has a surface area of 252 acres, an average depth of 1.9 m (6.2 ft), and a volume of 1570 acre-feet. The maximum depth is 3.4 m (11 ft). Because of the shallowness of the lake, the entire area is considered littoral zone, and it does not maintain a thermocline (a density gradient owed to changing water temperatures throughout the lake’s water column). The MN DNR has designated the lake as being infested with Eurasian water milfoil (*Myriophyllum spicatum*).

The year 2009 was the third year that Rice Lake has been involved in the CAMP. A search through the STORET nationwide water quality database for historic data showed that Secchi transparency measurements were collected along with user perception rankings for the years 1991, 1993, and 2002-2007. Dissolved oxygen measurements were collected in 1993. However, the CAMP 2007 – 2009 data are the only known data for nutrients and chlorophyll-a for this lake.

The lake was monitored 11 times in 2009. On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total Kjeldahl nitrogen (TKN), and Secchi transparency (water clarity), as well as the lake’s perceived physical condition and recreational suitability. The data are summarized in the figures and graphs on the following page.

2009 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	394	102	750	F
CLA (µg/l)	151	19.0	500	F
Secchi (m)	0.9	0.3	1.5	D
TKN (mg/l)	2.59	1.50	5.20	
			Lake Grade	F

The lake received a lake grade of F for 2009 which is worse than the lake grade received in 2008. The 2008 data shows that the lake experienced relatively lower concentrations of TP and CLA, and greater water clarity during the period of April through July as compared to the 2009 data. Another interesting pattern is that the water clarity tended to improve as the 2009 monitoring season progressed, but the trend observed in 2008 was a worsening of water clarity as the season progressed. To better understand the lake’s water quality and where it may be heading, additional years of data collection are needed.

The perceived physical and recreational conditions (ranked on a 1-to-5 scale) are shown in the figures on the following page. The average user perception rankings were 3.2 for physical condition (between 3- “definite algae presence” and 4- “high algal color”), and 3.2 for recreational suitability (between 3- “swimming impaired” and 4- “no swimming – boating ok”).

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

If you notice any errors in the lake’s data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

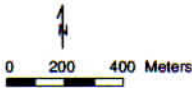
Rice Lake
Maple Grove, Hennepin Co.

Lake ID: 270116
WMO: Elm Creek

Volunteer: George Schneider



● Sampling site
Contours in meters



DATE	Surf Temp C	Bot Temp C	Surf DO mg/L	Bot DO mg/L	CLA ug/L	Surf TP ug/L	Bot TP ug/L	Secchi Depth m	PC	RS
5/3	14				19	102		0.8	2	2
5/17	17				110	164		0.8	3	3
5/31	25				98	138		0.8	3	3
7/4	26				91	338		0.8	3	3
7/20	23				500	632		0.3	4	4
8/9	26				370	750		0.4	4	4
8/23	23				78	529		1.5	4	4
9/7	23				56	333		1.5	3	3
9/20	24				34	566		1.4	3	3
10/4	13				73	324		1.8	3	3
10/18	7				12	231		2.2	2	2

Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												D
Lake Grade	D											

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth			C								D	D
Lake Grade	C											

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus				F	F	F
Chlorophyll a				F	D	F
Secchi Depth	C	D	D	F	C	D
Lake Grade	F					

Source: Metropolitan Council and STORET data

